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Gram Stain Procedure

Procedure for doing a gram stain

Gram Stain Procedure

Preparation of microscope slide:

1. Clean slide with a Kimwipe and alcohol to remove any fingerprints.
2. Draw two circles with your Sharpie on the **bottom** of the slide.
3. Using your inoculation loop, put two **small** drops of water in each circle.
4. Using aseptic technique, remove a **very small** amount of bacteria from the culture tube. Make sure you flame the tube before and after you enter.
5. Smear the bacteria in the drop of water on your slide. You may go out of the perimeter of your circles!
6. Let the slide **air dry completely**.
7. Heat-fix the slide by running it through the flame 3-4 times with the 'smear' side up. Do not flame the side with the bacteria!
8. Let the slide cool completely and you are ready to stain it.

Staining procedure:

1. At the back sinks, place **crystal violet** on each smear for 1 minute.
2. Rinse the crystal violet off of the slide by swishing the slide gently in the large beakers labeled 'Crystal Violet'.
3. Tap slide on paper towel to remove most of the water.
4. Place **Gram's iodine** on each smear for 1 minute.
5. Rinse by running water from the tap very slowly over the surface of the slide while holding it at an angle.
6. Tap slide on paper towel to remove most of the water.
7. Place **ethanol** on each smear and for 15-30 seconds. This is the most variable step.
8. Rinse with water and tap dry.
9. Place **safranin** on each smear for 1 minute.
10. Rinse with water and tap dry.
11. Blot *gently* with bibulous paper.

12. Dry the bottom of the slide before placing it on the stage of the microscope and view with the oil immersion lens.

Endospore Stain Procedure

Procedure for doing an endospore stain.

Endospore Stain Procedure

Preparation of microscope slide:

1. Clean slide with a Kimwipe and alcohol to remove any fingerprints.
2. Draw two circles with your Sharpie on the **bottom** of the slide.
3. Using your inoculation loop, put two **small** drops of water in each circle.
4. Using aseptic technique, remove a **very small** amount of bacteria from the culture tube. Make sure you flame the tube before and after you enter.
5. Smear the bacteria in the drop of water on your slide. You may go out of the perimeter of your circles!
6. Let the slide **air dry completely**.
7. Heat-fix the slide by running it through the flame 3-4 times with the 'smear' side up. Do not flame the side with the bacteria!
8. Let the slide cool completely and you are ready to stain it.

Staining procedure:

1. Cover the smears with a piece of paper towel within the border of the slide.
2. Place the slide over a beaker of steaming water. Do not let the beaker boil dry!
3. Flood the paper towel with **malachite green** and let the slide steam for 3-5 minutes.
4. Complete the rest of the procedure at the back sinks.
5. Remove the stained paper towel and discard it in the trash can, not in the sinks.
6. Gently rinse the slide with water to remove any pieces of loose paper towel and tap dry.
7. Counterstain with **safranin** for 1 minute.
8. Rinse with water and tap dry.
9. Blot *gently* with bibulous paper.

10. Dry the bottom of the slide before placing it on the stage of the microscope and view with the oil immersion lens.

Acid-fast Stain Procedure

Procedure for doing an acid-fast stain.

Acid-fast Stain Procedure

Preparation of microscope slide:

1. Clean slide with a Kimwipe and alcohol to remove any fingerprints.
2. Draw two circles with your Sharpie on the **bottom** of the slide.
3. Using your inoculation loop, put two **small** drops of water in each circle.
4. Using aseptic technique, remove a **very small** amount of bacteria from the culture tube. Make sure you flame the tube before and after you enter.
5. Smear the bacteria in the drop of water on your slide. You may go out of the perimeter of your circles!
6. Let the slide **air dry completely**.
7. Heat-fix the slide by running it through the flame 3-4 times with the 'smear' side up. Do not flame the side with the bacteria!
8. Let the slide cool completely and you are ready to stain it.

Staining procedure:

1. Cover the smears with a piece of paper towel within the border of the slide.
2. Place the slide over a beaker of steaming water. Do not let the beaker boil dry!
3. Flood the paper towel with **carbolfuchsin** and let the slide steam for 3-5 minutes.
4. Complete the rest of the procedure at the back sinks.
5. Remove the stained paper towel and discard it in the trash can, not in the sinks.
6. Gently rinse the slide with water to remove any pieces of loose paper towel and tap dry.
7. Apply **acid-alcohol** for 15-30 seconds.
8. Rinse off and tap dry.
9. Counterstain with **methylene blue** for 1.5 minutes.
10. Rinse with water and tap dry.

11. Blot *gently* with bibulous paper.
12. Dry the bottom of the slide before placing it on the stage of the microscope and view with the oil immersion lens.